RETAIL DEMAND ESTIMATION OF ORGANIC AND OTHER VARIANTS OF RICE IN THE PHILIPPINES

and its Implications to Sustainability and Self Sufficiency

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Outline

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Background

• Rice – an indispensable part of the Filipino diet
  
  (35% of the total food consumption; 85% of the total cereal consumption)¹

• Self-sufficiency target
  
  (Food Staples Sufficiency Program: farm productivity improvement and increase in the competitiveness of Filipino Rice farmers)


The Problem

• Trade-off between feeding the people and environmental preservation.

• Policies for self-sufficiency are often towards increasing yield through subsidies for farm inputs, mechanization, and irrigation\(^1\).

• Incentives to increase yield have led to:
  ➢ inefficient utilization of energy
  ➢ overexploitation and excessive usage of water
  ➢ indiscriminate use of inorganic fertilizers and other inputs\(^2/3\).

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The Problem

• Organic food for environmental sustainability\(^1\) but not for food security?\(^2\)

• Reasons for buying organic include:
  • superior taste
  • nutrition and health benefits
  • food safety concerns
  • environmental preservation\(^3,4,5\)

• For rice, sufficient demand for organic be established in order to incentivize farmers to adopt organic farming\(^6\)

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Objectives

- to understand the consumer demand and the positioning of imported or local and inorganic or organic rice in the market.
- contribute to the understanding of how the market for organic rice behaves and how it could possibly affect both self-sufficiency and sustainability of rice
Methods

- Weekly Point of Sale Data from the Supermarket
- Data aggregation- clustering and pooling of data based on attributes (organic, inorganic, imported, local)
- Almost Ideal Demand System- to determine the demand and expenditure elasticities of the rice variants at the means
Findings and Implications
<table>
<thead>
<tr>
<th></th>
<th>Local organic</th>
<th>Local inorganic</th>
<th>Imported inorganic</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expenditure elasticity</strong></td>
<td>0.090 (1.500)</td>
<td>1.159 (0.064)</td>
<td>0.836 (2.281)</td>
</tr>
<tr>
<td><strong>Hicksian (compensated)</strong></td>
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<tr>
<td>Local organic</td>
<td>-1.281 (1.808)</td>
<td>1.089 (1.388)</td>
<td>0.192 (2.000)</td>
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<tr>
<td>Local inorganic</td>
<td>0.153 (0.199)</td>
<td>-0.416 (0.332)</td>
<td>0.263 (0.929)</td>
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<tr>
<td>Imported inorganic</td>
<td>0.142 (0.414)</td>
<td>1.386 (0.028)</td>
<td>-1.528 (1.075)</td>
</tr>
<tr>
<td><strong>Marshallian (uncompensated)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local organic</td>
<td>-1.290 (1.808)</td>
<td>1.021 (0.072)</td>
<td>0.179 (2.190)</td>
</tr>
<tr>
<td>Local inorganic</td>
<td>0.031 (0.199)</td>
<td>-1.288 (0.013)</td>
<td>0.098 (1.169)</td>
</tr>
<tr>
<td>Imported inorganic</td>
<td>0.054 (0.413)</td>
<td>0.757 (0.012)</td>
<td>-1.647 (1.068)</td>
</tr>
</tbody>
</table>
Conclusion

- Increases in consumer income does translate to a significant increase in the demand for organic rice.
- Demand for both local and imported inorganic rice have much higher expenditure elasticities.
- Organic rice is highly substitutable with local inorganic rice (high cross price elasticity).
- Both local and imported inorganic rice also have low cross-price elasticity with local organic rice (highly substitutable).
- Therefore, there is no strong and evident demand for organic rice, at least for Davao City.
Conclusion

In comparison to previous studies, consumption of organic products is highly related with the consumers’ interest in food safety, health and environmental preservation\(^1,2,3\).

Filipinos, although they have gained awareness about organic products, many are still not able to understand and appreciate the concept behind it\(^4\).

The low demand for organic rice would be less of an incentive for rice farmers to further their organic production or even to adopt organic farming for the non-producers.

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Conclusion

• However, other drivers of demand such as demographics, quality, product attributes (variety, color, net weight), and brand (consumer loyalty) were seen to affect consumer behavior towards rice but were not considered in this study¹.

• Thus the need to further understand the drivers of demand for organic rice specific to the Philippines is acknowledged.

THANK YOU!